

REMARKS

This is in response to the Office Action mailed on October 5, 2004.

Claims 1, 6, 10, 14, 16, 18, 20, 22, 24, 27, 29, 31, 32, 34, and 37 are amended, claims 7, 15, 19, 23, 28, 33, and 38 are canceled, and no claims are added; as a result, claims 1-6, 8-14, 16-18, 20-22, 24-27, 29-32, and 34-37 are now pending in this application.

Information Disclosure Statement

Applicant submitted an Information Disclosure Statement and a 1449 Form with the application on December 8, 2003. To date, Applicant has not received an initialed 1449 Form indicating that the cited references have been considered by the Examiner. Applicant respectfully requests that an initialed copy of the 1449 Form be returned to Applicants' Representatives to indicate that the cited references have been considered by the Examiner.

§112 Rejection of the Claims

Claim 31 was rejected under 35 USC § 112, second paragraph, as being indefinite. Applicant has amended claim 31 to address the noted antecedent basis concerns. Reconsideration and withdrawal of the rejection is respectfully requested.

§102 Rejection of the Claims

Claims 1-5, 20, 21, and 23-26 were rejected under 35 USC § 102(e) as being anticipated by Gardner et al. (U.S. 6,268,637). Applicant does not admit that Gardner is indeed prior art and reserves the right to swear behind this reference at a later date. Nevertheless the Applicant believes that the pending claims are distinguishable from the reference for at least the following reasons.

Gardner appears to show a pair of devices 18, 20 formed in active areas 22 and 24 of a substrate 12. Gardner also appears to show an air gap 62 in a trench 58. However, Gardner does not show, teach or suggest a substrate including a dielectric layer with an air gap for location at least partially beneath an active region and a semiconductor layer formed over the dielectric layer.

In contrast, independent claims 1, 10, 16, 20, 24, 29, and 34 as amended include a substrate including a dielectric layer with an air gap for location at least partially beneath an active region and a semiconductor layer formed over the dielectric layer.

Because Gardner does not show every element of Applicant's independent claims, a 35 USC § 102(e) rejection is not supported. Reconsideration and withdrawal of the rejection is respectfully requested with respect to claims 1-5, 20, 21, and 23-26.

§103 Rejection of the Claims

Claims 6-9, 22, 27, 32, 33, 37, and 38 were rejected under 35 USC § 103(a) as being unpatentable over Gardner et al. (U.S. 6,268,637) in view of Schwank et al. (U.S. 6,268,630). Applicant respectfully traverses the rejection for at least the following reasons.

The rejection states that "buried SOI layers, as shown by Schwank, are generally placed just under the active region. With this standard placement of the buried insulator SOI layer, the dielectric layer will include the air gap (claim 7), the trench will extend to a level of the dielectric layer of the substrate (claim 8), and the trench will extend at least partially into a level of the dielectric layer of the substrate (claim 9)."

Schwank appears to show an SOI configuration with a device layer 22 over a buried oxide layer 20, and a field oxide 30 formed in trenches 26. Applicant is unable to find any teaching in Schwank of a trench 26 extending at least partially into a level of oxide layer 20. Schwank does not show a substrate including a dielectric layer with an air gap for location at least partially beneath an active region and a semiconductor layer formed over the dielectric layer.

In contrast, as discussed above, independent claims 1, 10, 16, 20, 24, 29, and 34 as amended include a substrate including a dielectric layer with an air gap for location at least partially beneath an active region and a semiconductor layer formed over the dielectric layer.

Because the Gardner and Schwank, either alone or in combination, do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to claims 6-9, 22, 27, 32, 33, 37, and 38.

Claims 10, 13, 16, and 17 were rejected under 35 USC § 103(a) as being unpatentable over Gardner et al. (U.S. 6,268,637) in view of Chiang et al. (U.S. 6,037,249). Claims 11 and 12 were rejected under 35 USC § 103(a) as being unpatentable over Gardner et al. (U.S. 6,268,637) and Chiang (U.S. 6,037,249) as applied to claim 10 above, and further in view of Beyer et al. (U.S. 6,098,856). Claims 14, 15, 18, and 19 were rejected under 35 USC § 103(a) as being unpatentable over Gardner et al. (U.S. 6,268,637) and Chiang (U.S. 6,037,249) as applied to claim 10 above, and further in view of Schwank et al. (U.S. 6,268,630). Claims 29-31 and 34-36 were rejected under 35 USC § 103(a) as being unpatentable over Gardner et al. (U.S. 6,268,637).

Applicant respectfully submits that the additional references of Chiang and Beyer fail to cure the deficiencies of Gardner and Schwank and as outlined above.

Because the cited references, either alone or in combination, do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to claims 10-19, 29-31 and 34-36.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6944 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By his Representatives,

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Date 1-5-05

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 5 day of January, 2005.

Name

KACIA LEE

Signature

Kacia Lee

IN THE DRAWINGS

Please accept the corrections of Figure 2H as submitted in the attached replacement sheet. The label "FIG. 2H" was inadvertently omitted in the original, and has been added in the replacement sheet.